IN THE CLAIMS

Please cancel claims 1-4, 9-13, 16-21, 23-24 and 27-28.

Please amend the claims as follows.

1-4 (Cancelled)

5. (Currently Amended) An apparatus comprising:

at least one processor;

a memory coupled to the at least one processor;

a database table residing in the memory;

a query residing in the memory that accesses the database table; and

a query optimizer residing in the memory and executed by the at least one processor, wherein the query optimizer analyzes the query, and if no optimal index for the query exists, the query optimizer determines if a sub-optimal index exists, a sub-optimal index including at least one key referenced in the query and additionally including at least one additional key that prevents traversal of the sub-optimal index to determine the number of rows that the query will return, wherein if a sub-optimal index exists, the query optimizer, for each additional key in the sub-optimal index, reads statistical information regarding the additional key, the query optimizer rewriting the query using the statistical information in a manner that allows probing the sub-optimal index according to the rewritten query, the query optimizer thereby determining from the sub-optimal index an estimated number of rows in the database table that satisfy the query, the query optimizer optimizing the query based on the estimated number of rows in the database table that satisfy the query.

6. (Original) The apparatus of claim 5 wherein the statistical information comprises a frequent values list that corresponds to an additional key.

7. (Currently Amended) An apparatus comprising:

at least one processor;

a memory coupled to the at least one processor;

a database table residing in the memory;

a query residing in the memory that accesses the database table;

an index residing in the memory that includes at least one key referenced in the query and additionally includes at least one additional key that prevents traversal of the index to determine the number of rows that the query will return; and

a query optimizer residing in the memory and executed by the at least one processor, wherein the query optimizer, for each additional key in the index, reads statistical information regarding the additional key, the query optimizer rewriting the query using the statistical information in a manner that allows probing the index according to the rewritten query, the query optimizer thereby determining from the index an estimated number of rows in the database table that satisfy the query, the query optimizer optimizing the query based on the estimated number of rows in the database table that satisfy the query.

8. (Original) The apparatus of claim 7 wherein the statistical information comprises a frequent values list that corresponds to an additional key.

9-13 (Cancelled)

14. (Currently Amended) A method for optimizing a database query for a database table, the method comprising the steps of:

(1) analyzing the query;

(2) if no optimal index for the query exists, determining if a sub-optimal index exists, a sub-optimal index including at least one key referenced in the query and additionally including at least one additional key that prevents traversal of the sub-optimal index to determine the number of rows that the query will return;

(3) if a sub-optimal index exists, performing the following steps for each additional key in the sub-optimal index that prevents traversal of the sub-optimal index to determine the number of rows that the query will return:

(A) reading statistical information regarding the additional key; and

(B) rewriting the query using the statistical information in a manner that allows probing the sub-optimal index according to the rewritten query;

(4) probing the sub-optimal index using the rewritten query; [[and]]

(5) determining from the probe of the sub-optimal index an estimated number of rows in the database table that satisfy the query; and

(6) optimizing the query based on the estimated number of rows in the database table that satisfy the query.

15. (Currently Amended) The method of claim [[9]] 14 wherein the statistical information comprises a frequent values list that corresponds to an additional key.

16-21 (Cancelled)

22. (Currently Amended) A computer-readable program product comprising:

(A) a query optimizer that analyzes a query for a database table, and if no optimal index for the query exists, the query optimizer determines if a sub-optimal index exists, a sub-optimal index including at least one key referenced in the query and additionally including at least one additional key that prevents traversal of the sub-optimal index to determine the number of rows that the query will return, wherein if a sub-optimal index exists, the query optimizer, for each additional key in the sub-optimal index, reads statistical information regarding the additional key, the query optimizer rewriting the query using the statistical information in a manner that allows probing the sub-optimal index according to the rewritten query, the query optimizer thereby determining from the sub-optimal index an estimated number of rows in the database table that satisfy the query, the query optimizer optimizing the query based on the estimated number of rows in the database table that satisfy the query; and

(B) ~~computer readable signal bearing~~ recordable media bearing the query optimizer.

23-24 (Cancelled)

25. (Original) The program product of claim 22 wherein the statistical information comprises a frequent values list that corresponds to an additional key.

26. (Currently Amended) A computer-readable program product comprising:

(A) a query optimizer that processes a query for a database table using a sub-optimal index that includes at least one key referenced in the query and additionally includes at least one additional key that prevents traversal of the sub-optimal index to determine the number of rows that the query will return, wherein the query optimizer, for each additional key in the index, reads statistical information regarding the additional key, the query optimizer rewriting the query using the statistical information in a manner that allows probing the index according to the rewritten query, the query optimizer thereby determining from the index an estimated number of rows in the database table that satisfy the query, the query optimizer optimizing the query based on the estimated number of rows in the database table that satisfy the query; and

(B) ~~computer-readable signal bearing~~ recordable media bearing the query optimizer.

27-28 (Cancelled)

29. (Original) The program product of claim 26 wherein the statistical information comprises a frequent values list that corresponds to an additional key.